Listing of Claims:

1.   (Currently Amended) An image processing apparatus for processing an image of an object taken by an image input apparatus ~~by means of a reproducing environment converting unit,~~ ~~and displaying or printing~~ for subsequent display or printing of the processed image ~~in~~ by an image output apparatus, ~~wherein~~ said image processing unit comprising:

~~the~~ a reproducing environment converting unit which converts the image ~~into an image which can be observed in a desired~~ ~~reproducing environment based on photographing environment~~ ~~information and observing environment information~~ of the object in accordance with an environment in which the image of the object is to be observed, with reference to (i) photographing environment information acquired at a time of photographing the object by the image input apparatus and (ii) observing environment information acquired at a time of observing the image of the object via the image output apparatus;

wherein the photographing environment information comprises photographing illumination spectrum information and photographing object feel-of-material information;

wherein the observing environment information comprises observing illumination spectrum information and observing object feel-of-material information; and

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wherein the reproducing environment converting unit converts

the image of the object with reference to at least each of the

25. photographing illumination spectrum information, the

photographing object feel-of-material information, the observing

illumination spectrum information and the observing object

feel-of-material information.

2. (Currently Amended) An image processing apparatus

according to claim 1, wherein the reproducing environment

converting unit comprises a color converting unit for converting

the image based on a difference ~~in~~ between an illuminating light

5 spectrum ~~between~~ of a photographing place and an illuminating

light spectrum of an observing place, with reference to either

the photographing environment information further including

information on the image input apparatus ~~, photographing~~

~~illumination spectrum information,~~ and object characteristic

10 information, or the observing environment information further

including information on the image output apparatus ~~and observing~~

~~illumination spectrum information~~.

3. (Currently Amended) An image processing apparatus

according to claim 1, wherein the reproducing environment

converting unit converts the image with reference to either the

photographing environment information further including at least

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5 ~~one of image pickup information, photographing light source~~

~~information and~~ object three-dimensional form information, ~~and~~ or

the observing environment information <u>further</u> including at least

~~one of illuminating light form information in an observing place,~~

~~illuminating light position information in the observing place,~~

10 ~~object direction information,~~ object position information ~~and~~

~~observer position information~~.

Claims 4 and 5 (Canceled).

6.   (Original) An image processing apparatus according to

claim 3, wherein the reproducing environment converting unit

comprises an object position converting unit for converting the

image to an image which can be observed when the object is placed

5 at a desired position based on the object position information.

Claims 7 and 8 (Canceled).

9.   (Currently Amended) An image processing apparatus

according to claim ~~4~~ <u>3</u>, wherein the reproducing environment

converting unit comprises <u>and utilizes</u> at least one of an image

composing and interpolating unit, a specular reflecting component

5 separating unit, and an object three-dimensional form recognizing

unit<u>.</u> ~~, and utilizes it when calculating reproducing environment~~

~~image.~~

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10.   (Currently Amended) An image processing apparatus according to claim 1, wherein the reproducing environment converting unit comprises:

a reproducing environment-variable image data producing unit

5   for producing reproducing environment-variable image data by using the photographing environment ~~formation~~ information;

data transmitting means for transmitting the reproducing environment-variable image data produced by the reproducing environment-variable image data producing unit through a portable

10   recording medium or a network; and

a reproducing environment-variable image data processing unit for converting the <u>reproducing environment-variable</u> image <u>data</u> in accordance with ~~reproducing environment by using the~~ ~~reproducing environment information~~ <u>the environment in which the</u>

15   <u>image of the object is to be observed</u>.

11.   (Currently Amended) An image processing apparatus according to claim 1, wherein the image input apparatus controls a turntable for rotating the object at a desired angle, and ~~automatically~~ photographs ~~images at~~ <u>the image of the object from</u>

5   a plurality of angles.

12.   (Original) An image processing apparatus according to claim 11, wherein the turntable has a rotation axis which can be inclined.

Claim 13 (Canceled).

14.   (Currently Amended) An image processing apparatus according to claim 1, wherein the image ~~is photographed by~~ input apparatus comprises a single camera or two cameras stereoscopically arranged, ~~constituting the image input apparatus, the~~ said single camera or said two cameras each being ~~selected from the group consisting~~ one of a digital still camera, a video camera and a multi-spectrum camera.

15.   (Currently Amended) An image processing apparatus according to claim 1, wherein the image output apparatus comprises a head mounting display for displaying ~~the processed image of the object, and~~ one of a stereoscopic image and a holographic image ~~is displayed in the head mounting display~~ of the object.

16.   (Currently Amended) An image processing apparatus according to claim 15, wherein the head mounting display of the image output apparatus ~~has~~ includes a gyroscopic sensor

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functioning as part of observing environment information

5   instructing means of the reproducing environment unit, and

<u>wherein the head mounting display</u> changes the displayed image in

accordance with movement of the head mounting display <u>detected by</u>

<u>the gyroscopic sensor</u>.

Claims 17-27 (Canceled).

28.   (New) An image processing apparatus according to

claim 1, wherein the reproducing environment converting unit

comprises a color converting unit for converting the image based

on a difference between an illuminating light spectrum of a

5   photographing place and an illuminating light spectrum of an

observing place.

29.   (New) An image processing apparatus according to

claim 1, wherein the photographing object feel-of-material

information includes information on illumination in

photographing.

30.   (New) An image processing apparatus according to

claim 29, wherein the information on illumination in

photographing includes information on at least one of a position,

a radiating angle and a form of illuminating light of a

photographing place.

31.   (New) An image processing apparatus according to

claim 30, wherein the image input apparatus moves a point light

source to a desired position and photographs the object

illuminated with the point light source in a desired angle in

accordance with a preset program.

32.   (New) An image processing, apparatus according

to claim 1, wherein the observing object feel-of-material

information includes information on observing illumination.

33.   (New) An image processing apparatus according to

claim 32, wherein the information on observing illumination

comprises information on at least one of a position, a radiating

angle and a form of illuminating light of an observing place.

34.   (New) An image processing apparatus according to

claim 1, wherein the reproducing environment converting unit

converts the image with reference to either the photographing

environment information further including at least object three-

dimensional information, or the observing environment information

further including at least object direction information.

35. (New) An image processing apparatus according to claim 34, wherein the reproducing environment converting unit comprises an object direction converting unit for converting the image to an image which can be observed when the object is placed in a desired direction, based on the object direction information.

36. (New) An image processing apparatus according to claim 34, wherein the reproducing environment converting unit further comprises at least one of an image composing and interpolating unit, a specular reflecting component separating unit, and an object three-dimensional form recognizing unit, and utilizes the at least one of the units when reproducing the image of the object.

37. (New) An image processing apparatus according to claim 1, wherein the reproducing environment converting unit converts the image with reference to either the photographing environment information further including at least object three-dimensional form information, or the observing environment information further including at least observer position information.

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38.   (New) An image processing apparatus according to
claim 37, wherein the reproducing environment converting unit
comprises an observer position converting unit for converting the
image to an image which can be observed at a desired position,
5   based on the observer position information.

39.   (New) An image processing apparatus according to
claim 37, wherein the reproducing environment converting unit
further comprises at least one of an image composing and
interpolating unit, a specular reflecting component separating
5   unit and an object three-dimensional form recognizing unit and
utilizes the at least one of the units when reproducing the image
of the object.